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The stability of motions of hereditary systems with infinite delay

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Abstract

Several conditions for the stability of equalibria and stationary motions of hereditary mechanical systems with infinite delayhas been identified. The system of functional-differential equations with infinite delay was considered where a continuous mapping exists satisfying the conditions for the existence and uniqueness of a solution at each point. Like a system of functional-differential equations with finite delay, the limit functional and the limit set for a continuous Lyapunov functional were also defined. The mechanical system with holonomic stationary constrainrs that is determined by generalized coordinates and described by the equations involving kinetic and potential energy of the system and symmetic matrix which express the heredity properties or the influence of the prehistory of the system was also considered.

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